

US EPA Region 5/MPCA Meeting Agenda
Thursday, August 2, 2018
10:00am – 1:00pm
US EPA R5, Chicago

1. Introductions

2. Purpose of the meeting

- Common understanding of issues
- Resolve concerns so permit can be reissued

3. Background

- Facility history/operation
- Timeline of significant events
- Environmental impacts
- Approach to working with the permittee

4. Proposed permitting approach

- What are we trying to fix and how?
- Groundwater and surface water monitoring/compliance
- Compliance schedules and intent
- Summary of 7/25 technical meeting

5. Discussion issues

- Indirect discharges (deep seepage) and regulatory approach
- Surface water regulatory approach
- EPA permit review

6. Next steps

- Timeline to reissuance
- Outreach

7. Action items

8. Adjourn

Planned Attendees:

US EPA R5

Cathy Stepp

Kurt Thiede

Leverett Nelson

Linda Holst

Kevin Pierard

MPCA

John Linc Stine

Shannon Lotthammer

Adonis Neblett

Jeff Udd

Fig 1: Minntac Tailings Basin – Local Setting

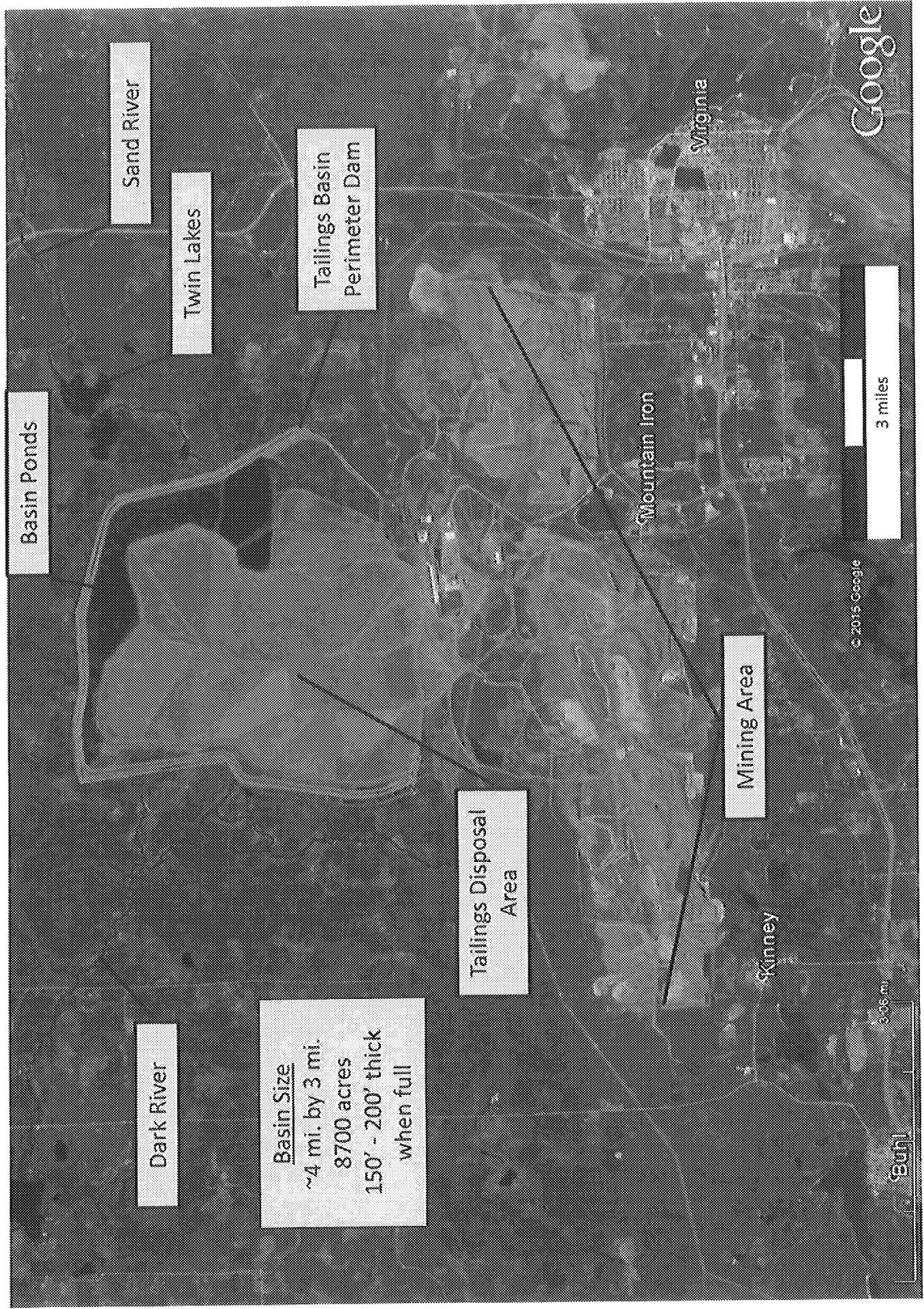
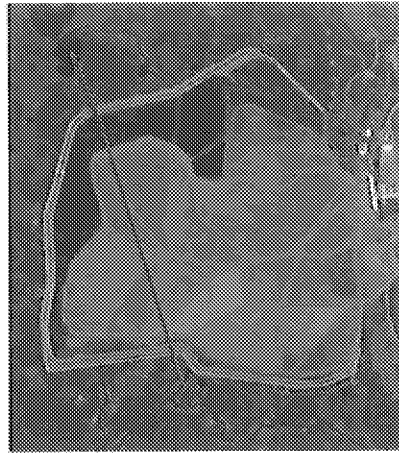
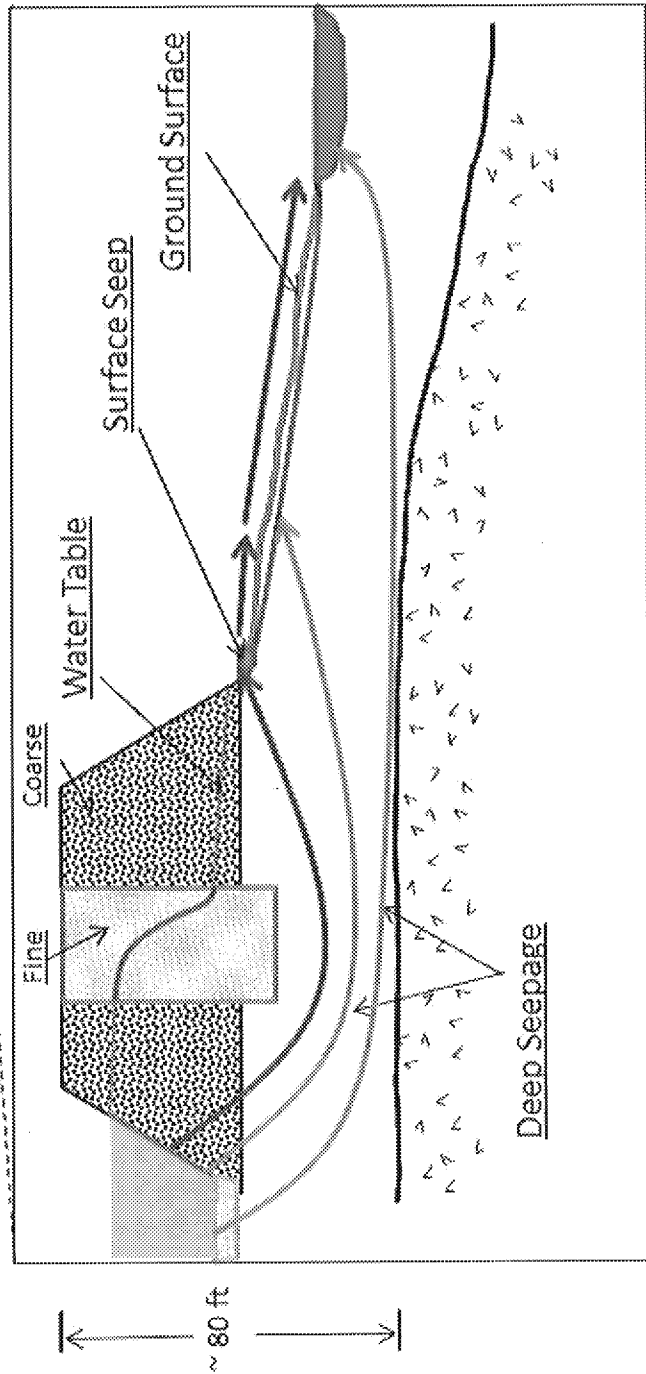
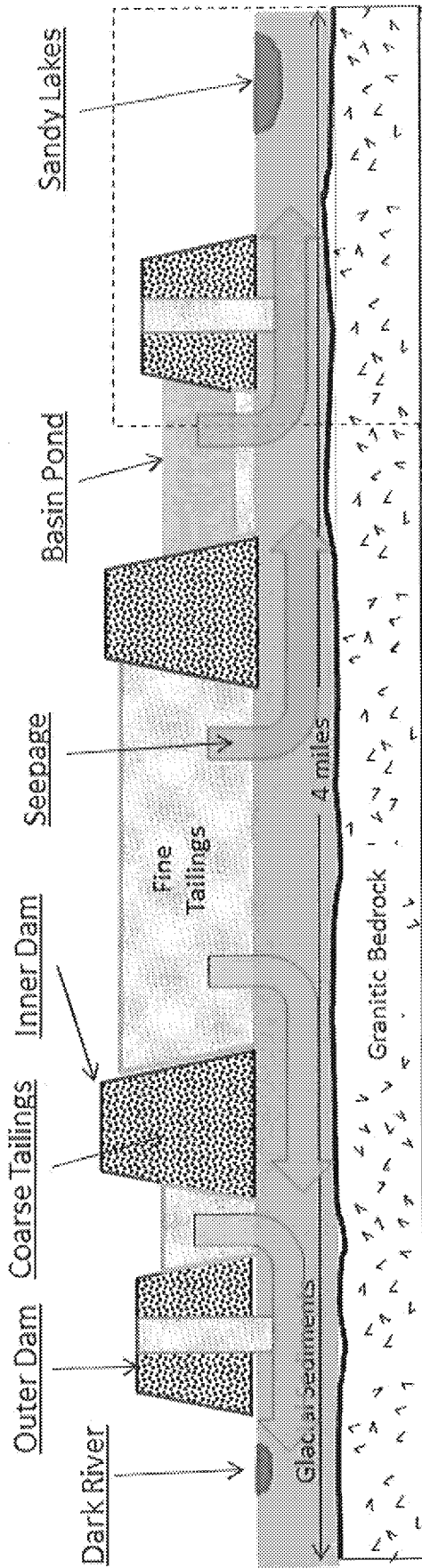


Fig 2: Minntac Tailings Basin Overlay on Chicago



Idealized East-West Tailings Basin Cross Section with Seepage



Surface and Deep Seepage (before seepage collection and return system)

Date (seep sulf.)	Minntac Tailings Basin Major Events
1964	Permit P.A. 63-846 from Dept. of Conservation issued for construction of basin and appropriation of 27,000 acre feet of water annually from south of Laurentian divide
1966	Cell I of tailings basin, encompassing 6.6 sq mi, begun. Minnesota Water Pollution Control construction permit WPC-5055.
1967	October 2, 1967 - Start-up of Step I facilities
1972	Present perimeter dam completed
1978	USS installs Agglomerator Lines 6 & 7, begins coal burning there, w/ wet scrubbers; sulfate in process water accelerates from 9 mg/L to 30 mg/L annual increase in concentration
1984 (320)	Regular testing of sulfate begins at seepage discharges
1985-86 (500)	USS first proposes siphon discharge; subsequent concerns raised about rice and trout waters downstream
1987	MPCA & DNR agree that more information needed to evaluate potential siphon impacts; tailings basin NPDES/SDS permit issued w/ monitoring, but no limits, for sulfate, conductivity in existing seep discharges; USS determines that siphon discharge not an immediate need
1987-89 (400-800)	USS stops burning petcoke, begins flux pellet production
1991	MPCA and DNR outline to USS information needed to evaluate potential siphon discharge, including implementing mitigation measures to achieve compliance through existing seep discharges w/ the 10 mg/L sulfate standard in the Sandy River
1992-93	MPCA begins NPDES/SDS permit reissuance process, calls for USS to resolve sulfate non-compliance in Sand R by addressing the sulfide tailings, make-up water supply sulfate, and the wet scrubber sulfate
1997 (600-800)	USS responds to 1993 MPCA request sulfate mitigation issue "no new sulfur reduction alternatives are available", proposes sulfate limit > than 10 mg/L; MPCA indicates willingness to consider this, if appropriate documentation provided
1998	USS notifies MPCA and DNR of need to restart siphon discussions due to risk of overtopping the perimeter tailings basin dam
1998-99	USS develops and begins to implement workplan to address environmental concerns related to renewed siphon discharge proposal; MPCA and USS agree that wild rice-related studies also will benefit permit reissuance
1999-2000	USS, MPCA and DNR agree to discretionary EIS process for siphon discharge proposal
2000 (680-900)	MPCA informs USS that the available regulatory relief from 10 mg/L sulfate standard would be through a variance, and encourages USS to expedite a variance application; MPCA sends USS letter of warning for sulfate, conductivity, WQ standard violations due to seep discharges
2001	USS submits initial variance application for sulfate [at 3000 mg/L], conductivity, chloride, hardness; MPCA responds that support for a sulfate limit higher than 10 mg/L depends on USS reducing current levels of sulfate, leading to SOC
2001	2001 SOC - USS to undertake a focused feasibility study to identify ways to control pollutants entering waters of the state in lieu of a variance
2003	SOC amended to allow USS to focus the study on sulfate-reducing, packed-bed bioreactor system (SPB)

2006	2006 SOC - USS must submit a permit application that includes the installation of a SPB and a variance application. USS does this, but then proposes that a seepage collection system for the Sand River side would allow them to meet WQS faster. Proposes studies to establish site specific standards for wild rice in Twin Lakes.
2007 (800-1050)	2007 SOC - Terminates 2006 SOC, USS must evaluate seep collection, pilot test membrane treatment (RO), evaluate feasibility of treating collected seepage, model possible impacts to surface and groundwater, submit a revised water management plan, and submit a permit app within 90 days of MPCA approval of the plan.
2009	USS submits a permit application proposing installation of a process water treatment system (PWTS) that would reduce basin pollutant concentration by half within 5 years
2009	USS requests that PCA not issue a permit while USS investigates refinements to the proposed PWTS
2010	USS proposes replacing wet air emissions controls with "dry scrubbers" as means to reduce sulfate concentrations in tailings basin, as well as reducing particulate matter, sulfur dioxide and mercury in air emissions
2011	Multi-pollutant, multi-media SOC for Minntac and Keetac to reduce air quality emissions, water quality pollutant discharges and resolve outstanding water quality noncompliance at the Minntac tailings basin. USS must submit permit application to install dry controls on line 6, install Dark SCRS, and model GW to determine basin sulfate concentration that would meet GW limits
2011	USS's air permit application deemed incomplete
2012	NPDES/SDS Permit modified to allow for installation of Dark SCRS
2013	2011 SOC amended to address observed exceedances of GW standards at MW-12
2012-13	Extensive meetings with MPCA, USS, EPA, and DNR around permit reissuance
Apr-13	DNR finds that an EIS is not needed for the Mine expansion
Apr-14	MPCA request USS submit new air permit application per 2011 SOC
Jan-14	USS submits updated EPA Forms 1 & 2C at request of MPCA
12/1/2014 (1060)	MPCA provides pre-public notice of draft NPDES/SDS permit to EPA, USS, and Tribal Organizations
Dec-14	USS submits UAA request for Upper Dark River and Timber Creek
Jan-15	MPCA demands via letter that USS comply with SOC and install dry controls
Feb-15	USS submits a report stating it does not intend to proceed with Dry Controls
May-15	USS submits UAA request for the Sand River, Admiral lake, and Twin lakes
Jun-15	USS provides (per MPCA request) updated basin sulfate prediction graph (w/out dry controls) showing sulfate concentrations will continue to increase
Oct-15	USS submits SSS request for Sand and Dark River watersheds
Dec-15	MPCA responds to USS that data showing support of 2A use will be needed in evaluating SSS request
Nov-16	MPCA puts draft Minntac NPDES/SDS permit on public notice
12/1/2016 (1000)	Considerable comments received on draft permit including CCH requests from USS and MCEA, and a Variance request from USS
Feb-17	USS files petition for an alternative writ of mandamus to compel MPCA to complete UAA and SSS process prior to issuing an NPDES/SDS permit
Jan-18	Mandamus suit and counterclaims settled
Jan-18	MPCA provides notice of Intent to Deny Variance Request

USS Minntac Permit

What is the issue(s) we are trying to fix?

- Reissuance of a permit that has been administratively extended since 1992
- Address the legacy environmental issues from a tailings basin that was built prior to environmental regulation
- Exceedance of surface water standards
 - Hardness, bicarbonate, specific conductance, and total dissolved salts
 - Sulfate (250 mg/L) in the trout water in Dark River
- Exceedance of groundwater standards
 - Sulfate (250 mg/L) and total dissolved solids standards to protect drinking water
 - Groundwater monitored at two wells (NE property boundary) exceeds these standards. USS proposed and MPCA approved mitigation measures with an enforceable schedule to achieve compliance by 2025 at these points

What is the goal of the permit?

- The goal of the permit is to provide:
 - A plan and schedule to meet the surface water and groundwater standards;
 - Reasonable solutions to deal with legacy environmental issues; and
 - Ongoing operations of the existing facility

How does the permit accomplish this goal?

- The permit includes all currently applicable requirements, including:
 - Final limit for sulfate in the basin water
 - Dates and schedules to reduce pollutants leaving the basin via deep seepage to levels that will protect nearby surface water and groundwater
 - Expanded monitoring of pollutants in nearby surface and ground water
 - Requirements to routinely inspect for surface seeps and mitigate if needed
 - Toxicity testing: testing of water on organisms to ensure protection of aquatic life (fish and aquatic bugs).
- The permit requires that USS determine the concentrations in the basin that would ensure compliance with all applicable water quality standards and support designated uses in groundwater and surface waters that are impacted by pollutants from the basin
- Key dates within the permit:

- Within 18 months of permit reissuance, USS must install/operate a Seep Collection and Return System (SCRS) along the west/northwest sides of the basin, same as east side
- Within 30 months, USS must predict when surface and groundwater standards will be met
- Within 54 months, USS shall initiate construction or begin implementation of the chosen treatment system and/or mitigation that will result in compliance with surface and groundwater standards.
- By December 31, 2025, comply with 250 mg/L sulfate in groundwater at the property boundary.
- No later than 10 years after permit issuance, achieve 357 mg/L sulfate in tailings basin pool water.

What are the challenges?

- This site is very complex and differs significantly from other industrial facilities
 - Size of the basin; a basin with an area over 13 square miles (and a perimeter of 11 miles) is a huge area of potential surface and subsurface water discharges
 - Impacts to surface water occur after pollutants have traveled through highly variable glacial sediments, often for many years
 - Recycling/reuse of water contributes to high concentration of pollutants in the water in the basin (sulfate averages 900 mg/L)
- Differing regulatory approaches for addressing discharges to groundwater that are hydrologically connected to surface water
 - Use of state law (SDS) vs. federal law (NPDES) to meet water quality standards
 - The environmental outcome is the same either way - surface water and groundwater will be protected to the same level
- Not possible to predict a date by which the final limits in surface water can be met
- Wild rice
 - If rulemaking designates any water body impacted by the tailings basin as a water to which the wild rice beneficial use applies, the permit can be modified to set sulfate limits protective of wild rice

Proposed Minntac Tailings Basin Monitoring



Disclaimer: this document is a working document. This document may change over time as a result of new information, further deliberation, or other factors not yet known to the Agency.

Draft Minntac Compliance Schedule

1. Compliance Schedule

1.1 To mitigate impacts from the Tailings Basin discharge to groundwater (SDS Compliance Schedule), the Permittee shall meet the following limits in the shortest reasonable period of time, but in no event later than the following times, unless the Permittee establishes through the investigation required under Part 2 below (Hydrological Investigation Work Plan) and/or Part 3 below (Basin Treatment Methods Study Plan) and other reliable data that other limits will result in compliance with the applicable water quality standards at all waters shown to be affected by pollutants released from the Tailings Basin or that other deadlines are necessary, and this permit has been amended to reflect those limits and/or deadlines:

- a) 357 mg/L sulfate within the tailings basin pool water no later than ten years after permit issuance; and
- b) 250 mg/L sulfate in the groundwater at the property boundary by December 31, 2025. [Minn. R. 7001]

1.2 For the discharge of seepage to surface water along the tailings basin dam perimeter, the Permittee shall meet the terms of the NPDES compliance schedule (detailed below in part 7.1) as soon as possible, but not later than 18 months after permit issuance. [Minn. R. 7001]

2. Hydrological Investigation Work Plan. [Minn. R. 7001]

2.1 Within 180 days after permit issuance, the Permittee must submit a Hydrological Investigation Work Plan that describes how the Permittee proposes to investigate and evaluate site conditions critical to the selection and implementation of treatment, mitigation efforts and/or other activities that could be taken to meet all applicable water quality standards and support designated uses in waters of the state that are impacted by pollutants from the Basin. submit a plan : Due by 180 days after permit issuance. [Minn. R. 7001]

2.2 The Hydrological Investigation Work Plan shall include a field data collection and analysis plan sufficient to accomplish the following:

- a) identify the significant surface and subsurface flow paths from the tailings basin to surrounding surface waters and groundwater under existing and foreseeable hydrologic conditions at the tailings basin;
- b) evaluate water quality with respect to all applicable uses potentially impacted by the tailings basin along the identified flow paths;
- c) determine potential aggregate acute and chronic toxic effects to aquatic organisms at compliance locations (identified in this permit) in the Sand River and Dark River watersheds;
- d) develop an understanding of the fate and transport of tailings basin-derived chemical constituents at a level sufficient to assess the effectiveness of considered mitigation technologies and strategies, including calculated estimates of the recirculated tailings basin pool water sulfate concentration necessary to meet applicable water quality standards and support designated uses in surface water and groundwater;
- e) determine sources and potential quantities of pollutants released from each source in the basin, including sources such as coarse tails, fine tails, recirculating process water, air emissions control contributions, and tailings lock-up water (pore water); and,
- f) identify and quantify any other pollutants the Permittee could reasonably expect to be released from the tailings basin, taking into account contributions from tailings lock-up water, continued oxidation of emplaced tails, and secondary pollutants that could be released or re-mobilized, and estimate the timeframe over which the tailings basin will continue to release pollutants. [Minn. R. 7001]

2.3 The Hydrological Investigation Work Plan shall also include a field data collection and analysis plan sufficient to develop a site conceptual flow and transport model(s) that describes the sources, fate, and transport of tailings basin pollutants sufficiently for the purpose of estimating future hydrogeological and water quality conditions at the tailings basin and along the flowpaths identified for 2.2(a) during basin operation, and post closure, and which will

allow the Permittee to evaluate the effectiveness of potential passive and/or active treatment technologies, mitigation alternatives or combinations of actions, with regard to meeting all applicable water quality standards and supporting designated uses in waters of the state that are impacted by pollutants from the Basin. The conceptual flow and transport model(s) shall provide a system mass balance that accounts for the transport or transformation of parameters of concern to within plus or minus ten percent of the mass calculated to be emanating from the tailings basin, as well as estimates for pollutant travel times along identified flow paths. [Minn. R. 7001]

2.4 The Permittee must also comply with the following interim requirements before submitting its final plan. Within 90 days after permit issuance, the Permittee must submit to the MPCA a status report identifying:

- a) All waters of the state that are believed to be impacted by pollutants from the Basin;
- b) All waters of the state within a 2 mile radius of the Basin perimeter that the Permittee contends are not impacted by pollutants from the Basin and detailing the reasons the Permittee contends those waters are not impacted by pollutants from the Basin; and
- c) A preliminary list of locations where field investigation monitoring activities are planned. submit a report : Due by 90 days after permit issuance. [Minn. R. 7001]

2.5 The Permittee shall complete the actions listed in the Hydrological Investigation Work Plan within 18 months of permit issuance. [Minn. R. 7001]

2.6 Upon submittal of the Hydrological Investigation Work Plan and schedule, the Permittee shall commence work on the Plan in accordance with the schedule contained therein and provide written notice to the MPCA that it has commenced work and thereafter report to the MPCA on its progress as required by part 5.28.37 (reports). The MPCA reserves the right to submit comments to the Permittee on the adequacy of the Investigation Work Plan. If the Permittee does not address comments submitted by the MPCA to the satisfaction of the MPCA, the MPCA reserves the right to determine that the results do not provide adequate scientific support for any proposed change in the schedule of compliance limits. [Minn. R. 7001]

2.7 Following submittal of its Investigation Work Plan, the Permittee must provide a status report every 90 days identifying, at a minimum, the following:

- a) The work conducted in the last 90 days;
- b) Any reports prepared by the Permittee, or its consultants, related to the work performed;
- c) Milestones to be met before the next 90 day status report and work the Permittee intends to perform to meet those milestones. [Minn. R. 7001]

2.8 A final report documenting the findings of the fully implemented Hydrological Investigation Work Plan shall be submitted within 18 months of permit issuance. The report shall include all of the information and analyses described in Parts 2.2 and the site conceptual flow and transport model described in 2.3. submit a report : Due 548 calendar days after Permit Issuance Date. [Minn. R. 7001]

2.9 Failure to complete the Investigation Work Plan and submit the required report within 18 months of permit issuance will not extend the deadline for the Basin Treatment Methods Study Plan. [Minn. R. 7001]

3. Basin Treatment Methods Study Plan. [Minn. R. 7001]

3.1 Within 20 months of permit issuance, the Permittee shall submit a Basin Treatment Methods Study Plan that identifies feasible technologies (including at a minimum, nano-filtration, reverse osmosis, ion exchange, and dry emissions controls), for non-mechanical or mechanical treatment/mitigation to reduce the concentration of sulfate as required under part 1.1 above. submit a report : Due 610 calendar days after Permit Issuance Date. [Minn. R. 7001]

3.2 The Basin Treatment Methods Study Plan must identify how the Permittee will evaluate the treatment methods to determine which method will reduce surface water and groundwater quality impacts from the tailings basin in the shortest reasonable period of time, considering the reliability of the treatment methods, the cost to install and to operate the treatment methods, compatibility with MDNR closure requirements, and the secondary environmental impacts of the treatment methods, if any. [Minn. R. 7001]

3.3 The Basin Treatment Methods Study Plan must include a detailed schedule that justifies the time period proposed to complete the technical feasibility analysis. [Minn. R. 7001]

3.4 The Basin Treatment Methods Study Plan must be of sufficient scope to provide for the following, which shall be detailed in the Final Compliance Plan described in Part 4.2:

- a) a description of each possible treatment method that the Permittee has identified, an analysis of the technical feasibility of each method, and the estimated cost to install or implement each method;
- b) an estimate of the length of time that each technology/treatment method would require to attain and maintain compliance with a basin sulfate concentration identified in Part 1.1(a);
- c) an estimate of operation and maintenance costs associated with each treatment method and the reliability of that method;
- d) analysis of how each identified potential passive and/or active treatment method may impact site closure in accordance with MDNR requirements, which include a dry basin;
- e) identification of secondary environmental impacts and costs for each method;
- f) whether mitigation adjacent to the basin will be necessary, in addition to basin water treatment, to meet all applicable water quality standards and supported designated uses for the waters of the state that are impacted by pollutants from the Basin, including any water quality standards and supported designated uses identified by the MPCA, in the shortest reasonable period of time. [Minn. R. 7001]

3.5 All tasks described under the Basin Treatment Methods Study Plan must be completed within 29 months of permit issuance. The plan provides the basis for the Permittee to submit the Final Compliance Plan described in Part 4.2 below. [Minn. R. 7001]

3.6 Upon submittal of the Basin Treatment Methods Study Plan and schedule, the Permittee shall initiate the plan of action identified in the Plan in accordance with the schedule contained therein, and provide written notice to the MPCA that it has done so within 14 days. [Minn. R. 7001]

3.7 The MPCA reserves the right to submit comments to the Permittee on the adequacy of the Basin Treatment Methods Study Plan and schedule. If the Permittee does not address comments submitted by the MPCA to the satisfaction of the MPCA, the MPCA reserves the right to determine that the results do not provide adequate scientific support for a change in the schedule of compliance limits. [Minn. R. 7001]

3.8 If the Permittee proposes an alternative final basin concentration, the Permittee must submit an application to modify the permit. To be approved, the Permittee must demonstrate scientific support for the ability of the alternative to meet applicable water quality standards in all water bodies identified as being affected or potentially affected by water released from the Tailings Basin as demonstrated in the Hydrological Investigation Work Plan. [Minn. R. 7001]

4. Final Compliance Plan. [Minn. R. 7001]

4.1 Within 30 months of permit issuance, or within 60 days of MPCA's approval or denial of a permit amendment, if requested, the Permittee shall submit a Final Compliance Plan. submit a compliance plan : Due by 2.5 years after permit issuance. [Minn. R. 7001]

4.2 The Final Compliance Plan shall include the following:

- a) the findings of the Hydrological Investigation and Basin Treatment Methods Study, including an estimate of how quickly the identified potential passive and/or active treatment technologies, mitigation alternatives or combinations of actions will reduce the basin sulfate concentration to 357 mg/L, or an alternative concentration if the permit has been amended to include an alternative concentration.
- b) an explanation of why the technology/treatment method(s) selected represent the best means of meeting final compliance limits. Factors to be considered the best technology/treatment method(s) include rate of reduction of sulfate concentration, reliability, feasibility, compatibility with the approved basin closure plan, and limitation of secondary environmental impacts that will not be mitigated;
- c) an estimate of operation and maintenance costs associated with treatment/mitigation to maintain compliance with applicable water quality standards and support designated uses in surface water and groundwater;
- d) an estimate of the length of time that active treatment or maintenance of passive systems would be required to maintain compliance with applicable water quality standards and support designated uses in surface water and groundwater (pre and post closure);
- e) a predicted timeline, based on information collected under the Investigation Work Plan, for when the reduction of pollutant load to the watershed will be first observed at the monitoring stations;
- f) analysis of how the identified potential passive and/or active treatment technologies, mitigation alternatives or combinations of actions may impact site closure in accordance with MDNR requirements, which include a dry basin;
- g) a detailed proposal identifying the specific treatment systems and/or mitigation that will be implemented to achieve compliance with final permit limits and applicable water quality standards, including basin sulfate concentration limits, in the shortest reasonable period of time;
- h) the design, site plan, process schematic(s), preliminary design and specifications for major components of the specific treatment systems, and/or mitigation to be implemented;
- i) a schedule that will incorporate any pilot testing, (which must be completed by month 42), if necessary, to finalize the design process; and
- j) a schedule for attaining any necessary permits in the shortest reasonable period of time. [Minn. R. 7001]

5. Final Plans and Specifications. [Minn. R. 7001]

5.1 Within 48 months of permit issuance, the Permittee shall submit to MPCA:

- a) a final design package, which includes plans and specifications for treatment or mitigation system components, including specifications based on any pilot testing conducted that are sufficient to submit complete and accurate applications for any permits that may be required;
- b) a monitoring plan that will allow quantifiable biannual assessment of the performance of the treatment system and/or mitigation relative to its ability to achieve compliance with final limits, as well as applicable surface water and groundwater water quality standards by the specified date;
- c) a detailed schedule of milestones, occurring at intervals of annually or less, which include, at a minimum, start of construction, completion of construction, start-up, and initiation of operation, with adequate justification for the timeline described in the schedule meeting the shortest reasonable period of time requirement. Upon submittal, the milestone deadlines will become fully enforceable commitments of this compliance schedule, and failure to achieve these commitments will constitute a permit violation enforceable by MPCA; and
- d) predictions of the dates applicable water quality standards and designated uses will be met at each surface water monitoring station as a result of proposed mitigation efforts. submit final technical documents : Due by four years after permit issuance. [Minn. R. 7001]

6. SDS Schedule for Deep Seepage - System Implementation or Construction. [Minn. R. 7001]

6.1 The Permittee shall initiate construction or begin implementation of the chosen treatment system and/or mitigation within the shortest reasonable period of time, but no later than 54 months after permit issuance. begin construction : Due 1644 calendar days after Permit Issuance Date. [Minn. R. 7001]

7. NPDES Schedule - Dark River Seepage Collection and Return System (SCRS). [Minn. R. 7001]

7.1 The Permittee shall implement a system for recapture of seepage affecting shallow groundwater and surface waters ("SCRS") on the west side of the Tailings Basin within 18 months of permit issuance. The Permittee is responsible for obtaining all necessary approvals (U.S. Army Corps of Engineers, Wetland Conservation Act) to implement the SCRS system by submitting timely and complete applications. The MPCA will not grant any extensions to this deadline if the Permittee fails to submit timely and complete applications for necessary approvals. The Permittee shall provide copies to the MPCA of all applications filed and correspondence submitted to other agencies, which must approve the SCRS system. complete construction and commence operation : Due 548 calendar days after Permit Issuance Date. [Minn. R. 7001]

8. Special Requirements (Applicable to NPDES and SDS Schedules of Compliance). [Minn. R. 7001]

8.1 To ensure timely submittal of complete and accurate plans fulfilling all specified requirements, the Permittee shall meet with MPCA three months prior to each plan submittal deadline. At the meeting, the Permittee must present a progress report and draft plan that includes all the components of the plan as described in this permit and that will attain compliance with permit limits in the shortest reasonable period of time. [Minn. R. 7001]

8.2 Compliance with permit limits at groundwater monitoring stations shall be deemed to have occurred when all monitoring results at that station are less than or equal to the stated limit for one year of monitoring, and remain at less than or equal to the limit thereafter. [Minn. R. 7001]

8.3 Compliance with permit limits for the basin sulfate concentration shall be deemed to have occurred when all monitoring results for that station, or other representative basin sampling location, are less than or equal to the stated limit for 6 consecutive months of monitoring, and remain at less than or equal to the limit thereafter. [Minn. R. 7001]

8.4 If any of the submitted Plan(s) described herein propose actions requiring permits and/or approvals, the Permittee shall submit complete and accurate applications in the shortest reasonable period of time and comply completely and accurately with any requests for additional information in the timeframes specified in the requests. Delays in permit issuance due to incomplete or inaccurate applications will not excuse failure to meet permit deadlines. [Minn. R. 7001]

8.5 As new information becomes available during the course of the Compliance Schedule that results in material changes to a plan that has been submitted under the Compliance Schedule, the Permittee shall submit revisions to the affected plan consistent with the requirements for plan contents under the terms of this permit. Upon submittal, any such revisions to milestone deadlines shall be incorporated as enforceable provisions into the respective plans, and are enforceable under this permit. [Minn. R. 7001]

Highlights of proposed 2018 Minntac Tailings Basin Permit and changes from 2016 public notice draft

Changes in italics

Cover Page

Added Timber Creek, trout reach of Dark River, unnamed wetlands north of the basin, and unnamed wetlands tributary to the Dark River and Timber Creek as listed Receiving Waters.

Added "and non-point source" to the following statement:

The goal of this permit is to reduce pollutant levels in point source **and non-point source** discharges and protect water quality in accordance with Minnesota and U.S. statutes and rules...

Facility Description

Edited for length

Compliance Schedule

- Meet basin limit of 357 mg/L sulfate within 10 years of permit issuance (*removed: Interim limit of 800 mg/L within 5 years*)
- Meet GW limits at GW012 and GW013 by December 31, 2025 (*changed from 5 years after issuance*)
- Hydrological Investigation Work Plan due 180 days after issuance (*previously 30 days*), Report due 18 months after issuance (*previously 13 months*).
- Basin Treatment Methods Study Plan due 20 months after issuance (*previously 13 months*). Tasks required under the plan must be completed in 29 months of permit issuance (*previously 25 months*)
- Final Compliance Plan due 30 months after issuance (*previously 25 months*)
- Final Plans and Specifications due 48 months after permit issuance (*previously 37 months*)
- Initiate construction or implement mitigation strategy within 54 months of permit issuance (*previously 49 months*)
- *Requires status reports at 90 day intervals*
- *Removed language requiring Permittee to submit an application for permit modification following wild rice rulemaking*
- *Removed requirements to submit Biannual Compliance Schedule Progress Reports*
- *Deadline to install Dark River SCRS changed from December 31, 2017 to within 18 months of permit issuance and language added specifying that requests for extensions will not be considered if U.S. Steel fails to submit "timely and complete applications for necessary (permit) approvals"*

Special Requirements

Allows for, and sets conditions of, alternate sources of make-up water (unchanged)

Domestic Wastewater (non-POTW) - No changes

Industrial Process Wastewater - No changes

Metallic Mining

Individual seeps or seepage zones that are discharging at greater than 5 gallons per minute during the October survey shall be monitored monthly for flow, specific conductance, pH, and temperature and those results shall be reported in a supplement to the monthly DMR.

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Page 1

If seepage is discovered during the annual seepage survey that flows to any water not listed as a receiving water in the permit, the Permittee must take measures to prevent the seepage from entering those waters or seek modification of the permit to authorize the discharge under the permit.

Mercury Minimization Plan - No changes

Whole Effluent Toxicity Testing – Chronic

Annual testing required at SD001 or the nearest downstream location in the Dark River after installation of the SCRS. (previously quarterly for one year, then annually) Reason - IBI and quarterly WET testing are currently being conducted as part of the UAA and SSS studies

Testing at SW005 in the Sand River has been removed due to IBI and WET testing already being completed there.

Industrial Stormwater – Sector G: Metal Mining

Station SD005 was added to the permit at an area representative of the confluence of flows from the Dark Pond underdrain and the ponded are directly to the south of tailings cell D1. Samples are collected once per year for Sector G analyte list which includes a suite of metals.

Groundwater Stations

A shallow, intermediate, and deep monitoring well cluster shall be installed in the bedrock valley near Admiral Lake. Whichever of the intermediate and deep wells has the highest sulfate concentration will be designated as GW011.

Deadline to install the well has been extended from 180 to 270 days.

Surface Discharge Stations

Station SD006 added on the north side of the basin.

Interim and final limits removed at SD001

Surface Water Stations

Monitoring in trout reach of Dark River at SW004 is added back in (had been in 2014 pre-PN draft), so the compliance algorithm for upstream sampling station SW003 is removed.

Removed language stipulating samples must be collected "mid-stream, mid-depth"

Waste Stream Stations

Added detail on the monitoring location for WS009 – Tailings basin pond cell 1

Total Facility Requirements - No changes

Limits and Monitoring

- *Monitoring reduced from 3 times per year to "annually in October" at GW009 and GW010*
- *Surrogate limits for the trout reach removed from SW003*
- *Monitoring location added in Dark River trout reach (SW004)*
- *Flow monitoring removed at SW005, SW006, SW007, and SW008. Retained at SW001 and SW003*
- *Sodium and potassium removed as analytes at SW stations.*
- *SD006 added*
- *Final limits were removed at SW stations, as the compliance date will be established in a future permit modification or reissuance*